



CLEAN COPY OF CLAIMS

1(Once amended). A device comprising:

A1

a nanostructured anodic alumina substrate having two sides, wherein said anodic alumina substrate comprises substantially parallel nanoscale pores;

wherein each side of the alumina substrate has at least one deposited layer substantially perpendicular to the nanoscale pores; and

wherein at least one of said deposited layers comprises an electrode.

2(Once amended). The device of claim 1, wherein said device comprises a sensor.

A2

6(Once amended). The device of claim 1, wherein said anodic alumina substrate comprises a sensing material inside the nanoscale pores.

A3

11(Once amended). The device of claim 1, wherein said device further comprises a microheater.

12(Once amended). The device of claim 1, wherein said device further comprises an insulating layer.

A4

17(Once amended). The device of claim 1, wherein the anodic alumina substrate has a thickness of 0.1 μm to 500 μm .

18(Once amended). The device of claim 1, wherein said nanoscale pores have a diameter of 1 nm to 500 nm.

19(Once amended). The device of claim 1, wherein said nanoscale pores are substantially uniform in diameter.

20(Once amended). The device of claim 1, wherein said layer has a thickness in the range of 0.1 nm to 500 nm.

112 2nd layer of nanoscale pores

A5

27(Once amended). A method of making a device comprising the steps of:

forming an anodic alumina film on an aluminum substrate, wherein said anodic alumina substrate comprises substantially parallel nanoscale pores;

micromachining the anodic alumina film to obtain two surfaces by a technique selected from the group consisting of anisotropic etching and localized anodization; and

depositing at least one layer on each of the surfaces of the anodic alumina film; wherein at least one layer of the deposited layers is an electrode.

A6

29(Once amended). The method of claim 27, said method comprising the step of:

depositing another material in the nanoscale pores of the anodic alumina substrate.

A7

38(New). The device of claim 1, wherein said device is a gas sensor.

39(New). The device of claim 1, wherein the anodic alumina substrate is annealed.

40(New). The device of claim 1, wherein said device is a ceramic microdevice.

41(New). The device of claim 1, wherein said device is an array.

42(New). The device of claim 1, wherein said device is a photonic sensor.

43(New). The device of claim 1, wherein said device is an electromagnetic field sensor.

44(New). The device of claim 1, wherein said device is a biomedical sensor.

A7
cont

45(New). The device of claim 1, wherein said device is a bolometer.

46(New). The device of claim 1, wherein said device is a thermal sensor.

47(New). The device of claim 1, wherein said device is a magnetic sensor.

48(New). A device comprising:

a nanostructured anodic alumina substrate, wherein said anodic alumina substrate comprises substantially parallel nanoscale pores and the device functions as a microheater.
